

## 福島 博\*: 尾瀬産藍藻類\*\*

Hiroshi FUKUSHIMA\*: Cyanophyceae of Oze, central Japan.

本邦の藍藻に關しては近年多くの研究者の興味ある研究によりそのフロラも大分判明して來たが、これらの研究は温泉に産するものについて行われたものが多く、これ以外の水域に關してはまだ不明の點が極めて多い様で尾瀬地方も藍藻類に關する報告は見當らない。著者は昭和 25 年 7 月より本地方の藻類の調査を行い、藍藻類に關しては一應まとめる事が出来る様になつたので、今迄得た知見をここに記すこととする。尙新種とおもわれるもの、未査定のもの等、約 10 種あるがこれは追つて發表する。

調査に用ひた標本は總計 753 本で昭和 25 年 7 月上旬、同下旬～8 月上旬、同 9 月下旬～10 月上旬、昭和 26 年 3 月下旬～4 月上旬、同 5 月下旬～6 月中旬、同 10 月中旬の 6 回にわたつて採集し、フォルマリン固定したものである。

産地の項に記した番號は次の様である。1 (至佛山) 2, 5, 8, 14, 17, 20, 21, 25, 27 (尾瀬ヶ原) 3, 4, 7, 9, 10, 11, 15, 16, 18, 19, 22, 23, 26, 29, 31, 32, 33, 34, 36, (尾瀬ヶ原の河川) 12 (景鶴山) 13 (泉水池) 24 (アヤマ平) 30 (尾瀬ヶ原温泉) 35 (ダシゴヤ坂) 37 (白砂濕原) 39, 40 (小沼及附近濕地) 38, 42, 44, 45 (尾瀬沼周縁部濕地) 43 (大江川) 46 (大清水平濕原) 47 (大清水, 三平峠間) 48～52 (裏蘆岳諸濕原)。

本研究に際し種々御指導及び御校閲を戴いた東京文理科大學教授伊藤洋博士、國立科學博物館小林義雄博士に感謝致します。

## Chroococcaceae

1. *Aphanothece microscopica* Nägeli, Gatt. einz. Alg. 59, pl. 1, H. (1849); Rabh. Fl. Eur. Alg. 2: 63 (1868); Schmidle, in Bot. Jahrb. 32: 57 (1903); West, in Journ. Bot. 42: 293 (1904); De-Toni, Syl. alg. 5: 83 (1907); Migula, Alg. 2 (1) in Thomé, Fl. Deut. 43 (1907); Tilden, Minnes. Alg. 1: 31, pl. 2, f. 12 (1910); Geitler, Cy. in Pasch., Süsw. Fl. 73, f. 67 (1925); Cedercreuz in Act. Bot. Fenn. 15: 108 (1934); Wang in Cont. Biol. Lab. Sc. Soc. China 9: 10, 12 et 115 (1934); Taylor, in Amer. J. Bot. 22: 765 (1935); Hirose, in Jour. Jap. Bot. 13: 498, f. 12 (1937)……Fig. 1. Loc. 17. Very rare.

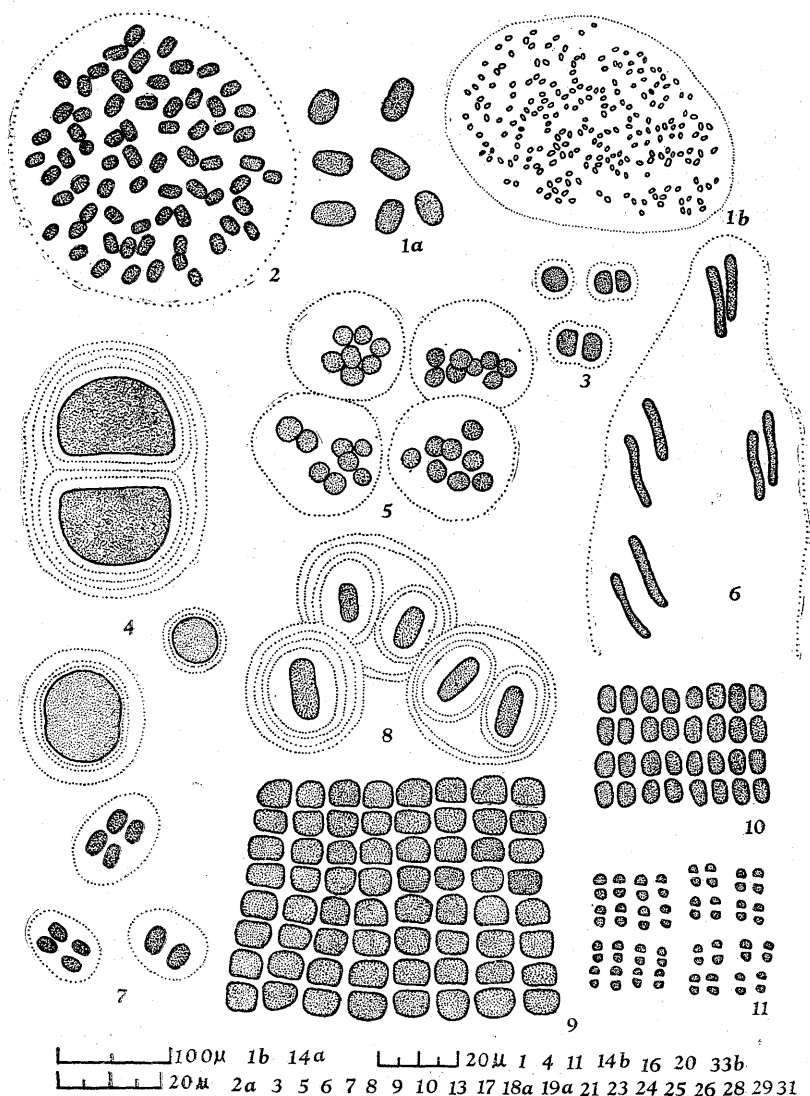
2. *Aphan. stagnina* (Spreng.) A. Brun.: Yoneda in Act. Phytotax. et Geobot. 6: 185, f. 11 (1937)……Fig. 2. Loc. 17. Rare.

3. *Chroococcus minutus* (Kütz.) Nägeli: Yoneda, l. c. 6: 188, f. 15 (1937)……Fig. 3. Loc. 14, 17, 37. Rare.

4. *Chr. turgidus* (Kütz.) Nägeli: Yoneda, l. c. 6: 187, f. 14 (1937)……Fig. 4.

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1. *Aphanothece microscopica* 2. *A. stagnina* 3. *Chroococcus minutus* 4. *C. turgidus*  
 5. *Gloeocapsa conglomerata* 6. *Gloethece linearis* 7. *G. rupestris* 8. *G. samoensis*  
 9. *Merismopedia elegans* 10. *M. glauca* 11. *M. punctata*

Loc. 1,2,5,8,13,14,17,20,21,27,28,37,38,40,42,45,48,49,50,51. Abundant. This is one of the commonest species in this moor.

5. *Gloeocapsa conglomerata* Kutz. Tab. Phyc. 16, pl. 20, f. 8 (1845-'46);

Rabh., l. c. 39 (1865); Migula, l. c. 22 (1907); Tilden, 18, pl. 1, f. 21 (1910); Geitler, l. c. 89, f. 88 (1925). . . . Fig. 5. Loc. 24, 40. Very rare.

Strato gelatinoso, fragilo, sordide viridi-olivaceo; cellulis parvis sphaericis, 3-6 $\mu$  sine teg., 7-11 $\mu$  cum teg.; tegumentis achromaticis non vel vix-lamellosis; familiis 22-45 in diam. . . . New to Japan.

6. **Gloeotheca linearis** Nägeli, Gatt. Einz. Alg. 58 (1849); Rabh., l. c. 60, (1865); De-Toni, l. c. 62 (1907); Migula, l. c. 28 (1907); Tilden, l. c. 25, pl. 2, 2 f. 1, 2 (1910); Geitler, l. c. 95, f. 101, 102 (1925); Cy. in Rabh., Kryptog. Fl. 217, f. 106a (1926); Copeland, Yellowst. Therm. Alg. 27 (1936). . . . Fig. 6. Loc. 14, 17, 21, 27, 48. Rare.

Strato gelatinoso, sordide luteo-viridi vel luteo-fuscente; cellulis prerumpue singulis, lineari-cylindricis, 0.8-2.5 $\mu$  latis, 10-18 $\mu$  longis, rectis, curvatis vel sigmoideis, pallide aerugineo-viridis; tegumentis achromaticis, hyalinis. . . . New to Japan.

7. **Gl. rupestris** (Lyng.) Bornet: Yoneda, l. c. 8: 33, f. 131 (1939) . . . Fig. 7. Loc. 1. Rare.

8. **Gl. samoensis** Wille in Hedw. 53: 144 (1913); Geitler, l. c. 95, f. 105 (1925) . . . Fig. 8. Loc. 17. Very rare.

Cellulis oblongis 4-5 $\mu$  latis, 6-9 $\mu$  longis, olivaceo-viridibus vel aerugineo-viridibus; tegumentis hyalinis, achromaticis. . . . New to Japan.

9. **Merismopedia elegans** Brun.: Yoneda, l. c. 6: 192, f. 22 (1937) . . . Fig. 9. Loc. 24. Rare.

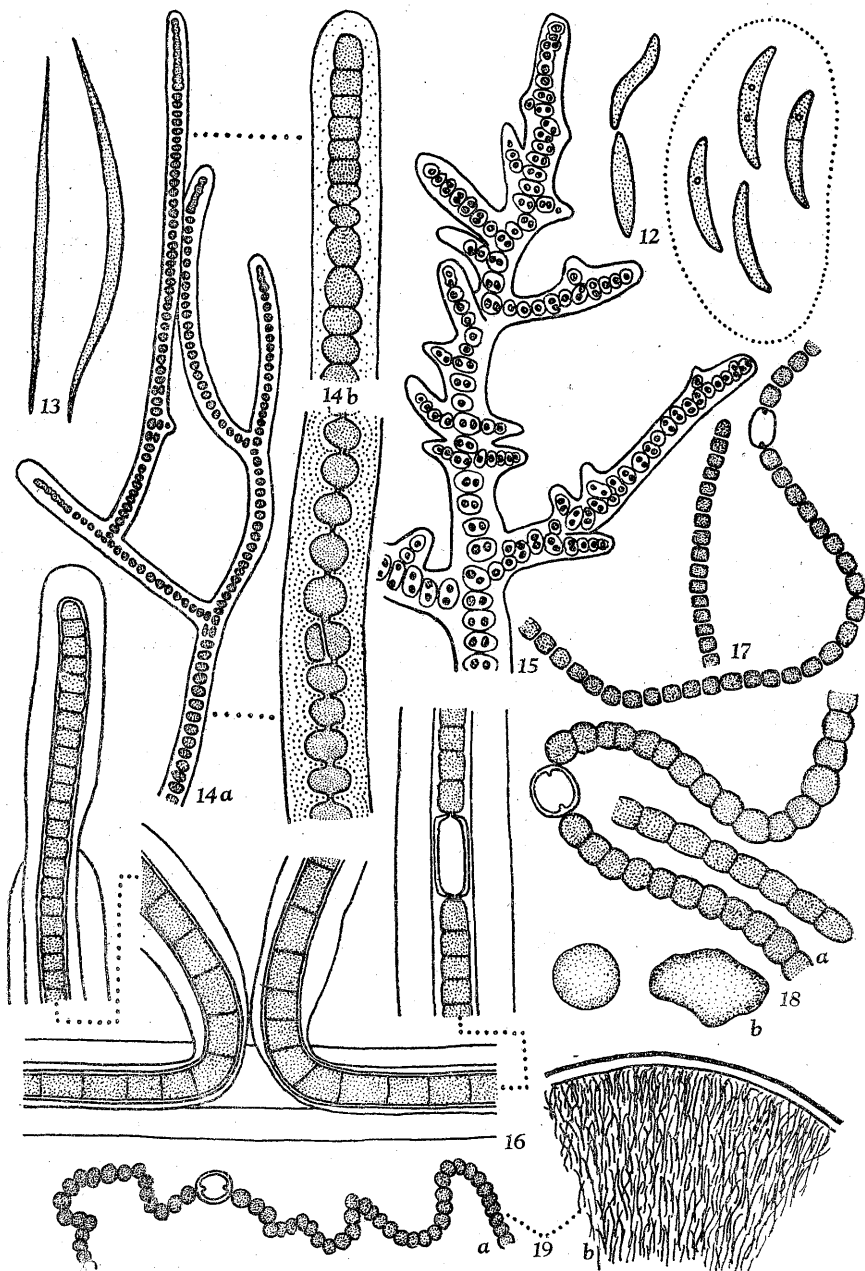
10. **M. glauca** (Ehrenb.) Nägeli: Yoneda, l. c. 6, 191 f. 21 (1937) . . . Fig. 10. Loc. 6, 18, 14, 17, 21, 24, 25, 27, 37, 38, 40, 42, 45, 48, 49, 51. Abundant. This is one of the commonest species in this moor.

11. **M. punctata** Meyen: Yoneda, l. c. 6: 190 f. 20 (1937) . . . Fig. 11. Loc. 17, 27, 48. Rare.

12. **Dactylococcopsis raphidioides** Hansg.: Yoneda, l. c. 9: 39, f. 153 (1940) . . . Fig. 12. Loc. 14, 17, 27, 37, 38, 48, 49. Rare.

13. **Dact. acicularis** Lemm. in Ber. d. Deut. Bot. Ges. 18: 309 (1900); De-Toni, l. c. 32 (1907); Migula, l. c. 21 (1907); Geit. l. c. 115, f. 140, 145 (1925). . . . Fig. 13. Loc. 1. Very rare.

Strato singulis vel abundantibus; cellulis rectis vel curvatis, linearibus, utroque apice caudate acuminatis, 2-2.5 $\mu$  latis, 55-80 $\mu$  longis, pallide aerugineo-viridibus; tegumentis latis, hyalinis, achromatis. . . . New to Japan.



12. *Datylococcopsis raphidioides* 13. *D. acicularis* 14. *Stigonema ocellatum* 15. *St. minutum* 16. *Scytonema mirabile* 17. *Nostoc Linckia* 18. *N. sphaericum* 19. *N. farmellioides*

## Stigonemataceae

14. **Stigonema ocellatum** (Dillw.) Thur.: Yoneda, l. c. 6: 193, f. 24 (1937) ... Fig. 14. Loc. 1,2,6,8,14,17,27,37,38,39,40,46. Common. This is a common species in this moor.

15. **St. minutum** (Ag.) Hass: Yoneda, l. c. 8: 35, f. 134 (1939) ... Fig. 15. Loc. 39. Very rare.

## Scytonemataceae

16. **Scytonema mirabile** (Dillw.) Born.: Yoneda, l. c. 6: 199, f. 32 a, b (1937) ... Fig. 16. Loc. 17,38,39. Rare.

## Nostocaceae

17. **Nostoc Linckia** (Roth) Born.: Yoneda, l. c. 10: 46 (1941) ... Fig. 17. Loc. 37,47. Rare.

18. **Nos. sphaericum** Vauch.: Yoneda, l. c. 7: 97, f. 58 (1938) ... Fig. 18. Loc. 1. Common.

19. **Nos. parmellioides** Kütz. Phyc. Gen. 206 (1943); Rabh., Fl. Eur. Alg. 2: 175 (1865); De-Toni, l. c. 422 (1907); Migula, l. c. 105 (1907); Tilden, l. c. 181, pl. 8, f. 20 (1910); Geitler, l. c. 306 (1925); l. c. 587, f. 546 (1932); Wang, l. c. 10: 160 (1936); Drouet in Field Mus. Nat. Hist. Bot. 20: 27 (1939) ... Fig. 19. Loc. 47. Common.

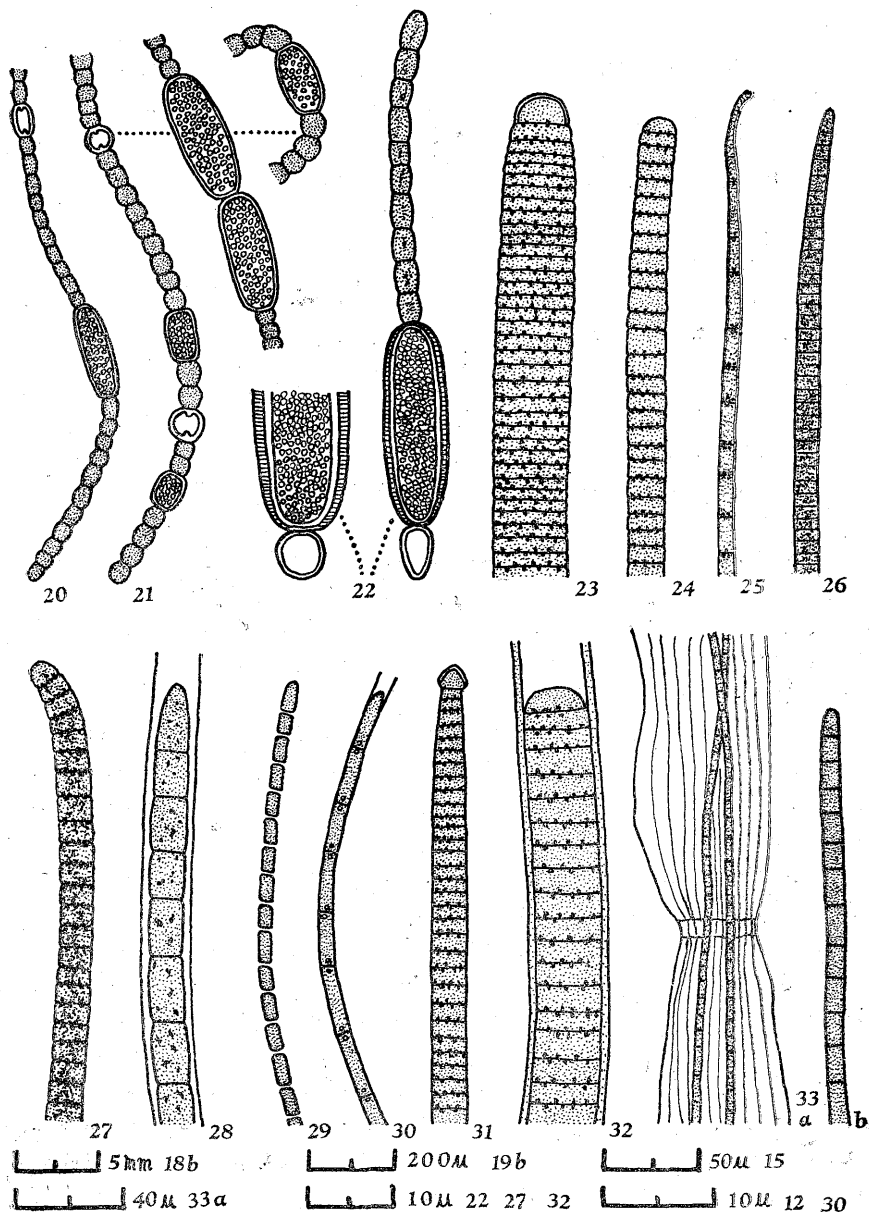
Thallo discoideo vel linguiformi, interdum subgloboso; filis a centro radiatim ordinatis, cellulis sphaeroides vel plus minusve depressis 4-4.5 $\mu$  latis, heterocystis subglobosis 6 $\mu$  latis; sporis ovoideis 4-4.5 $\mu$  latis, 7-8 $\mu$  longis, episporis luteolis. ... New to Japan.

20. **Anabaena aequalis** Gorge in Ark. Bot. 5 (1906); Geitler, l. c. 318 (1925); l. c. 897 (1932) ... Fig. 20. Loc. 48. Very rare.

Strato viridi aerugineo; trichomatibus 4-5 $\mu$  latis, rectis; cellulis terminalibus obtusis, articulis sphaerico-truncatis; heterocystis ellipsoideis 4.5-5.5 $\mu$  latis, 6.5-10.5 $\mu$  longis; sporis ab heterocystis remotis, singularibus vel bini-ordinatis, cylindricis, 5-7 $\mu$  latis, 21-41 $\mu$  longis, episporis achromatis. ... New to Japan.

21. **Anab. inaequalis** (Kütz.) Born. & Flah. Rév. 4: 231 (1888); Cooke, Brit. F. W. Alg. pl. 93, f. 4 (1882-'84); De-Toni, l. c. 446 (1907); Migula, l. c. 109 (1907); Tilden., l. c. 191, pl. 9, f. 16 (1910); Geitler, l. c. 318 (1925), l. c. 396, f. 587 (1932). ... Fig. 21. Loc. 47. Common.

22. **Cylindrospermum stagnale** (Kütz.) Born. et Flah.: Yoneda, l. c. 7: 74, f. 54 (1938) ... Fig. 22. Loc. 24. Very rare.



20. *Anabaena aequalis* 21. *A. inaequalis* 22. *Cylindrospermum stagnale* 23. *Oscillatoria sancta* 24. *O. tenuis* 25. *O. splendida* 26. *O. animalis* 27. *O. formosa* 28. *Phormidium tinctorium* 29. *Ph. tenue* 30. *Ph. valderianum* 31. *Ph. subfuscum* var. *joanianum* 32. *Lyngbya martensiana* 33. *Dasygloea amorpha*

## Oscillatoriaceae

23. *Oscillatoria sancta* Kütz. : Yoneda, l. c. 7: 159, f. 95 (1938) .... Fig. 23. Loc. 24. Rare.
24. *Oscil. tenuis* Ag. : Yoneda, l. c. 7: 162, f. 100 (1938) .... Fig. 24. Loc. 1, 6, 8, 14, 17, 27. Common.
25. *Oscil. splendida* Grev. : Yoneda, l. c. 9: 45 (1940). Fig. 25. Loc. 30. Rare.
26. *Oscil. animalis* Ag. : Yoneda, l. c. 6: 203 (1937) ... Fig. 26. Loc. 30. Rare.
27. *Oscil. formosa* Bogre : Yoneda, l. c. 7: 166, f. 106 (1938) .... Fig. 27. Loc. 14, 17, 24, 38, 40, 42, 46, 48, 49, 50, 51. Rare.
28. *Phormidium tinctorium* Kütz. Tab. Phy. 1: 35, pl. 49, f. 3 (1845); Rabh., l. c. 123 (1865); De-Toni, l. c. 218 (1907); Migula, l. c. 61 (1907); Tilden, l. c. 94, pl. 4. f. 55 (1910); Geitler, l. c. 380, f. 474 (1925), l. c. 1003, f. 642 a (1932) .... Fig. 28. Loc. 48. Frequent.
29. *Phorm. tenue* (Meneg.) Gom. : Yoneda, l. c. 6: 203, f. 38 (1937) .... Fig. 29. Loc. 1, 6, 8, 17, 27. Common.
30. *Phorm. valderianum* (Delp.) Gom. : Yoneda, l. c. 7: 170, f. 114 (1938). .... Fig. 30. Loc. 8, 14, 27. Rare.
31. *Phorm. subfuscum* Kütz. var. *Joanianum* (Kütz.) Gom., Monogr. 184 (1892); De-Toni, l. c. 248 (1907); Tilden, l. c. 106 (1910); Geitler, l. c. 384, f. 491 (1925); l. c. 1022, f. 652 d-g (1932); Geit. & Ruttner in Arch. f. Hydrob. Supp. 14: 469 (1935) ... Fig. 31. Loc. 29. Common.

Strato late expanso sordide aeruginoso; tricomatibus rectis, parallelis, ad genicula non constrictis, 5.5-7 $\mu$  latis, aerugineis, vel olivaceo-aerugineis, terminaliter rectis, attenuatis; vaginis chlorzinc. jodur. non caerulescentibus; cellulis 2-4-plo longioribus, apud septa granulatis. .... New to Japan.

32. *Lyngbya Martensiana* Menegh. : Yoneda, l. c. 7: 175 (1938). .... Fig. 32. Loc. 6, 7, 8, 17, 27, 46. Common.

33. *Dasygloea amorpha* Thw. : Berk. in Engl. Bot. Pl. 2941 (1848); Rabh., l. c. 152 (1865); De-Toni, l. c. 368 (1907); Tilden, l. c. 154, pl. 6, f. 26 (1910); Geitler, l. c. 411 (1925); l. c. 991, f. 634 b c (1932) .... Fig. 33. Loc. 14, 25, 39. Rare.

Vaginis amplissimis achromatis, homogenis vel leviter longitudinaliter striatis, chlorz. jodur. caerulescentibus; trichomatibus flexosocurvatis, 4-6 $\mu$  latis, 4-13 $\mu$  longis, aerugineis, ad genicula constrictis, cellulis apicalibus conis obtusis. .... New to Japan.